

Effect of Topography on Land use and Land cover of Dehradun and its Environment

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Abstract

Land-use and land-cover change (LULCC); also known as land change, is a general term for the human modification of Earth's terrestrial surface. Though humans have been modifying land to obtain food and other essentials for thousands of years, current rates, extents and intensities of LULCC are far greater than ever in history, driving unprecedented changes in ecosystems and environmental processes at local, regional and global scales. These changes encompass the greatest environmental concerns of human populations today, including climate change, biodiversity loss and the pollution of water, soils and air etc. In this paper an attempt has been made to see how topography of a place affects its land use and land cover. Since vegetation has a direct correlation with topography, hence, such type of study plays a very vital role in analyzing the variability of land use/land cover over an area and therefore, such studies are very helpful in the field of planning purposes, analyses, projection of future, urban land use planning etc. in a very significant manner. Besides, analyses of land use changes help in forecasting changes as well as formulating local developmental plans.

The study shows that in Dehradun Deciduous Forest cover 44% the total area followed by Sal Forests 22%. Agriculture is practiced on 18% of the land area. Whereas built-up area and water bodies covers 3%. After the overlay analysis of land use and land cover with the elevation map it is seen that agriculture is predominately practiced (60%) in the lower altitudes i.e. below 499 mts and in the high altitudes of 1750-1999mts only 2% of agriculture area is seen. At an altitude between 1750-1999 mts Sal Forest are found and that covers 14% of area but built up has highest land area (75%) in 499-749 mts. This shows that the settlement is mostly concentrated in the lower altitude and on the other had deciduous forest occupies the high altitude area.